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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,628	06/26/2001	Narinobu Kagami	209081US0PCT	4073
22850	7590	08/25/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			NGUYEN, CAM N	
			ART UNIT	PAPER NUMBER
			1754	

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/868,628

Applicant(s)

KAGAMI ET AL.

Examiner

Cam N Nguyen

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2004 (an amendment/response).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-8,10-18,20,21,35-38 and 48-51 is/are pending in the application.  
4a) Of the above claim(s) 9,22-33,39 and 52-59 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4 is/are allowed.
- 6) ☒ Claim(s) 10-18,20,21,40-45 and 48-51 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/29/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicants' remarks and amendments, filed on June 09, 2004, have been carefully considered. Claims 5, 19, 34, & 46-47 have been canceled. Claims 1, 4, 8, 10, 12, 14, & 48-49 have been amended.

Claims 1-4, 6-8, 9-18, 20-33, 35-45, & 48-59 are now pending in this application.

#### *Claim Objections*

2. Claim 1 is objected to because of the following informalities:

In line 2, "process" should be changed to --method-- (for consistency with the language of method claims).

Appropriate correction is required.

#### *Claim Rejections - 35 USC § 102(b)*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 10-18, 20-21, 40-45, & 48-51 are rejected under 35 U.S.C. 102(b) as being anticipated by Kageyama et al., "hereinafter Kageyama", (US Pat. 4,448,896).

Kageyama discloses a hydrogenation catalyst for desulfurization and removal of heavy metals, which comprise: (a) at least one metal component selected from the group consisting of metals of Groups VI B and VIII of the Periodic Table, as a

catalytically active component, and (2) a porous activated alumina carrier, etc. (see col. 10, claim 1). The catalytically active component comprises at least one metal selected from the group consisting of molybdenum and tungsten and at least one metal selected from the group consisting of cobalt and nickel (see col. 11, claim 5). Kageyama also discloses a process for producing a hydrogenation catalyst, which process comprises: shaping a mixture of carbon black and a powder of activated alumina or a precursor of activated alumina, said mixture optionally containing a catalytically active component selected from the group consisting of metals of Groups VI B and VIII of the Periodic Table; drying the shaped mixture; and firing said dried mixture in an oxygen-containing gas stream to burn off the carbon black; and, when said mixture does not contain the catalytically active component, applying the catalytically active component onto the porous activated alumina carrier thereby obtained (see col. 11, claim 7). Specifically, in Example 7 at col. 7, Kageyama discloses mixing a transition alumina powder and carbon black in dry form, and an aqueous solution containing polyethylene glycol was added then the mixture was kneaded and extruded, etc. After that, the extruded mixture was then dried and fired at 700°C for 3 hours to obtain an activated alumina carrier then a catalytically active component was applied onto this carrier to obtain a catalyst. Kageyama further discloses that in addition to the activate alumina, other carrier substances such as silica, magnesia, zirconia, titania, boria, chromia, and zeolite may also be added to the shaping mixture (see col. 4, ln 3-6), which includes the claimed Group 4 metals (or Ti and Zr).

Kageyama discloses the claimed hydrogenation catalyst and its process of preparation, thus anticipates the claims.

***Allowable Subject Matter***

5. Claims 1-4, 6-8, & 35-38 are not being rejected under the art rejection because they contain allowable subject matter. The following is the statement of reason(s) for allowance of the claimed subject matter.

As concern with claims 1-3, 6-8, & 35, the prior art does not disclose or fairly suggest a hydrogenation catalyst produced by a process requiring specific sequence of steps of impregnation of the metal compounds in combination with the requirement of heating at a temperature not higher than 300°C (as specified in claim 1).

As concern with claims 4 & 36-38, the prior art does not disclose or fairly suggest a hydrogenation catalyst produced by a process requiring impregnating an alumina refractory inorganic oxide carrier with an aqueous solution containing a salt of a titanium-peroxyhydroxycarboxylic acid in combination with the requirement of a sequence step of impregnating with at least one metal compound of Group 6 and at least one metal compound of Groups 8 to 10 of the Periodic Table (as specified in claim 4).

***Response to Arguments***

6. Applicants' amendment/remarks filed on June 09, 2004 has been carefully reconsidered, but not deemed persuasive in view of the new ground of rejection above.

**Citations**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 Form attached. All references are cited for related art.

**Conclusion**

8. Claims 1-4, 6-8, 9-18, 20-33, 35-45, & 48-59 are pending in the application. Claim 1 is objected. Claims 10-18, 20-21, 40-45, & 48-51 are rejected. Claims 9, 22-33, 39, & 52-59 remain withdrawn due to nonelected (distinct) invention(s). Claims 1-4, 6-8, & 35-38 are allowed.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Cam Nguyen, whose telephone number is (571) 272-1357. The examiner can normally be reached on M-F from 9:30 am. to 6:00 pm.

The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to telephone number (571) 272-1700.

Nguyen/cnn 

August 23, 2004

  
CAM N. NGUYEN  
PRIMARY EXAMINER

Art Unit: 1754